

### ABSTRACT

In a packet based data transmission including automatic repeat request (ARQ) protocols, the memory consumption of the ARQ protocol is reduced by compression/decompression of failed data block prior to combination with the retransmitted data blocks using low complexity compression/decompression algorithms. The compression algorithm includes of two parts: calculating and storing a scale factor that estimates the soft values in the data block, and storing the each soft values' sign in local memory instead of the complete soft value. Since one bit is sufficient to store the sign of each soft value, the memory consumption of a data block containing  $N$  soft values is  $N$  bits. Note, the scale factor increases the memory consumption, in bits, with the word length of the scale factor. However, the relative memory increase becomes smaller the larger the data block.

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